

---

# Chapter 7

## References

- Adams, M. 1991. FDA total diet study: dietary intakes of lead and other chemicals. *Chem. Spec. Bioavail.* 3:37-42.
- Angle, J., S. McGrath, A. Chaudri, R. Chaney, and K. Giller. 1993. Inoculation effects on legumes grown in soil previously treated with sewage sludge. *Soil Biology and Biochemistry* 25:575-580.
- Angle, J. and R. Chaney. 1988. Soil microbial-legume interactions in heavy metal contaminated soils of Palmerton, PA. *Trace Subst. Environ. Health.* 22:321-336.
- ATSDR. 1994. Biological indicators of exposure to cadmium and lead, Palmerton, PA, Part II. U.S. Dept. Health Human Services, Agency for Toxic Substances and Disease Registry. Atlanta, GA.
- Baxter, J, M. Aquilar, and K. Brown. 1983. Heavy metals and persistent organics at a sewage sludge disposal site. *J. Environ. Qual.* 12(3): 311-316.
- Beckett, P., R. Davis, and P. Brindley. 1979. The disposal of sewage sludge onto farmland: the scope of the problems of toxic elements. *Water Pollut. Contr.* 78:419-445.
- Cappon, C. 1984. Content and chemical forms of mercury and selenium in soil, sludge, and fertilizer materials. *Water, Air, Soil Pollut.* 22:95-104.
- CAST (Council for Agricultural Science and Technology). 1980. Effects of sewage sludge on the cadmium and zinc content of crops. CAST Rept. No. 83. Municipal Environmental Research Laboratory. EPA-600/8-81-003. U.S. Environmental Protection Agency. Cincinnati, OH.
- CAST. 1976. Application of sewage sludge to cropland: appraisal of potential hazards of the heavy metals to plants and animals. EPA 430/90-76-013.
- Chaney, R. 1993. Risks associated with the use of sewage sludge in agriculture. In *Proc. 15th Federal Convention*. Vol. 1. Australian Water and Wastewater Association, P.O. Box 5412 West End, Queensland, Australia 4012.

- Chaney, R. 1990. Public health and sludge utilization-food chain impact. *BioCycle* 31(10):68-73.
- Chaney, R. 1980. Health risks associated with toxic metals in municipal sludge. In: *Sludge: Health Risks of Land Application*. G. Bitton, et al., eds. Ann Arbor, MI: Ann Arbor Science Publ. pp. 58-83.
- Chaney, R. and S. Hornick. 1978. Accumulation and effects of cadmium on crops. In *Proc. 1st International Cadmium Conference*. Metals Bulletin Ltd. London.
- Chaney, R. and J. Ryan. 1994. Risk based standards for arsenic, lead, and cadmium. In *DECNMA*. ISBN 3-926959-63-0.
- Chaney, R. and J. Ryan. 1993. Heavy metals and toxic organic pollutants in MSW-composts: research results on phytoavailability, bioavailability, fate, etc. In *Science and Engineering of Composting*. Worthington, OH: Renaissance Publications, 1993.
- Chaney, R. and J. Ryan. 1991. The future of residuals management after 1991. In *AWWA/WPCF Joint Residuals Management Conference*. Water Pollution Control Federation, Arlington, VA.
- Chaney, R., S. Sterret, M. Morella, and C. Lloyd. 1982. Effects of sludge quality and rate, soil pH, and time on heavy metal residues in leafy vegetables. In *Proc. Fifth Annual Madison Conf. Appl. Res. Pract. Munic. Ind. Waste*. Univ. Wisconsin-Extension, Madison, WI, pp. 444-458.
- Chang, A., T. Granato, A. Page. 1992. A methodology for establishing phytotoxicity criteria for chromium, copper, nickel, and zinc in agricultural land application of municipal sewage sludges. *J. Environ. Qual.* 21:521-536.
- Chang, A, T. Hinesly, T. Bates, H. Doner, R. Dowdy, and J. Ryan. 1987. Effects of long-term sludge application on accumulation of trace elements by crops. In *Land Application of Sludge: Food Chain Implications*. Chelsea, MI: Lewis Publishers, pp. 53-66.
- Corey, R., L. King, C. Lue-Hing, S. Fanning, J. Street, and J. Walker. 1987. Effects of sludge properties on accumulation of trace elements by crops. In *Land Application of Sludge: Food Chain Implications*. Chelsea, MI: Lewis Publishers, pp. 25-51.
- FDA. 1982. Documentation of the Revised Total Diet Study. Food List and Diets. NTIS PB 82 192/54. Springfield, VA.
- Fox, M. 1988. Nutritional factors that may influence bioavailability of cadmium. *J. Environ. Qual.* 17:175-180.
- Fox, M. 1983. Cadmium bioavailability. *Fed. Proc.* 42:1726-1729.
- Habicht, H. 1992. Guidance on risk characterization for risk managers and risk assessors. Memorandum. U.S. Environmental Protection Agency, Office of the Administrator.
- Hartenstein, R., E. Neuhauser, and J. Collier. 1980. Accumulation of heavy metals in the earthworm *Eisenia foetida*. *J. Environ. Qual.* 9:23-26.
- Holmgren, G., M. Meyer, R. Chaney, and R. Daniels. 1993. Cadmium, lead, zinc, copper, and nickel in agricultural soils of the United States of America. *J. Environ. Qual.* 22:335-348.

- Ibekwe, A. J. Angle, P. van Berkum, and R. Chaney. 1995. Differentiation of *Rhizobium leguminosarum* bv. *trifolii* from different soils using REP and ERIC PCR. Agron. Abstr. 1995:235.
- Javitz, H. 1980. Sea-food consumption data analysis. SIR International. Menlo Park, CA.
- Johnson, N., P. Beckett, and C. Waters. 1983. Limits of zinc and copper toxicity from digested sludge applied to agricultural land. In Environmental Effects of Organic and Inorganic Contaminants in Sewage Sludge. R. Davis, G. Hucker, and P. L'Hermite, eds. Dordrecht: D. Reidel Publ.
- Kaitz, E. 1978. Home Gardening National Report. Presented at the American Seed Trade Association, Kansas, MO, June 1978.
- Kjellstrom, T. and G. Nordberg. 1978. A kinetic model of cadmium metabolism in the human being. Environ. Res. 16:248-296.
- Korcak, R. and D. Fanning. 1985. Availability of applied heavy metals as a function of type of soil material and metal source. Soil Sci. 140:23-34.
- Logan, T. and R. Chaney. 1983. Utilization of municipal wastewater and sludges on land-metals. In Proc. 1983 Workshop on Utilization of Municipal Wastewater and Sludge on Land. A. Page, T. Gleason, J. Smith, I. Iskander, and L. Sommers (eds.). University of California, Riverside, CA.
- Mahler, R., J. Ryan, and T. Reed. 1987. Cadmium sulfate application to sludge-amended soils. I. Effect on yield and cadmium availability to plants. Sci. Total Environ. 67:117-131.
- McDonald, D. 1983. Predation on earthworms by terrestrial vertebrates. In: Earthworm Ecology: From Darwin to Vermiculture. J. Satchell, ed. London: Chapman and Hall.
- McGrath, S., P. Hirsch, and K. Giller. 1988. Effect of heavy metal contamination on the genetics of nitrogen-fixing populations of *Rhizobium leguminosarum* nodulating white clover. In Environmental Contamination, CDEP Consultants: Edinburgh, Scotland, pp. 164-166.
- McKenna, I., R. Chaney, S. Tao, R. Leach, and F. Williams. 1992a. Interactions of plant zinc and plant species on the bioavailability of plant cadmium to Japanese quail fed lettuce and spinach. Environ. Res. 57:73-87.
- McKenna, I., R. Chaney, and F. Williams. 1992b. The effects of cadmium and zinc interactions on the accumulation and tissue distribution of zinc and cadmium in lettuce and spinach. Environ. Pollut. 79:113-120.
- Morgan, H. and D. Simms, eds. 1988. The Shipham report: an investigation into cadmium contamination and its implications for human health. Sci. Total Environ. 75:1-143.
- NAS. 1983. Risk assessment in the federal government: managing the process. National Academy of Sciences. Washington, D.C.: National Academy Press.
- Nogawa, K., R. Honda, T. Kido, I. Tsuritani, and Y. Yamada. 1987. Limits to protect people eating cadmium in rice, based on epidemiological studies. Trace Subst. Environ. Health 21:431-439.

Nogawa, K., A. Ishizaki, and S. Kawano. 1978. Statistical observations of the dose-response relationships of cadmium based on epidemiological studies in the Kakehashi River Basin. *Environ. Res.* 18:397-409.

Obbard, J. and K. Jones. 1993. Effects of heavy metals on dinitrogen fixation by *Rhizobium*-white clover in a range of long-term sewage sludge amended and metal contaminated soils. *Environ. Pollut.* A79:105-112.

Pennington, J. 1983. Revision of the total diet study food lists and diets. *J. Am. Diet. Assoc.* 82:166-173.

Pierce, J. and S. Bailey. 1982. Current municipal sludge utilization and disposal. *Proc. Am. Soc. Civ. Eng.* 108 (EES): 1070-1073.

Rother, J., J. Millbank, and I. Thornton. 1982. Seasonal fluctuations in nitrogen fixation (acetylene reduction) by free-living bacteria in soils contaminated with cadmium, lead and zinc. *J. Soil Sci.* 33:101-113.

Ryan, J. and R. Chaney. 1995. Issues of risk assessment and its utility in development of soil standards: the 503 methodology, an example. In *Proceedings of the Third International Symposium on Biogeochemistry of Trace Elements*, Paris, France (in press).

Ryan J. and R. Chaney. 1993. Regulation of municipal sewage sludge under the Clean Water Act Section 503: a model for exposure and risk assessment for MSW-compost. In *Science and Engineering of Composting*. Worthington, OH: Renaissance Publications, 1993.

Sharma, R., T. Kjellstrom, and J. McKenzie. 1983. Cadmium in blood and urine among smokers and non-smokers with high cadmium intake via food. *Toxicol.* 29:163-171.

Stehlow, D. and D. Bartrop. 1988. The Shipham report-an investigation into cadmium concentrations and its implications for human health. 6:Health Studies. *Sci. Total Environ.* 75:101-133.

USDA (U.S. Dept. of Agriculture) and CSRS (Cooperative State Research Service Technical Committee W-170). 1989. Logan, T. and A. Page, Co-Chairs. Peer Review: Standards for the Disposal of Sewage Sludge, U.S. EPA Proposed Rule 40 CFR Parts 257 and 503. Univ. California-Riverside.

USDA. 1987. Summary report: national resources inventory. Statistical Bulletin No. 790. Soil Conservation Service.

USDA. 1982. Food consumption: households in the United States, seasons and year 1977-78. Nationwide Food Consumption Survey 1977-78. Report No. H-6.

U.S. EPA. 1994. A plain English guide to the EPA Part 503 biosolids rule. Office of Wastewater Management. EPA/832/R-93/003.

U.S. EPA. 1993. Domestic septage regulatory guidance: a guide to the EPA Part 503 rule. Office of Water. EPA 832-B-92-005.

U.S. EPA. 1992a. Technical support document for land application of sewage sludge. Office of Water. NTIS PB93-110575.

U.S. EPA. 1992b. Technical support document for surface disposal of sewage sludge. Office of Water. NTIS PB93-110591.

- U.S. EPA. 1992c. Technical support document for incineration of sewage sludge. Office of Water. NTIS PB93-110617.
- U.S. EPA. 1992d. Control of pathogens and vector attraction in sewage sludge. Office of Research and Development. EPA/625/R-92/013.
- U.S. EPA. 1991. Guidelines for exposure assessment, draft final. Risk Assessment Forum, Washington, D.C.
- U.S. EPA. 1989a. Report of the Municipal Sludge Incineration Subcommittee. Office of the Administrator, Science Advisory Board. Washington, DC. EPA-SAB-EEC-89-03520460.
- U.S. EPA. 1989b. Interim final guidance for soil ingestion rates. OSWER Directive 9850.4. Jan. 27, 1989.
- U.S. EPA. 1985. Summary of environmental profiles and hazard indices for constituents of municipal sludge: methods and results. Office of Water Regulations and Standards, Wastewater Criteria Branch, Washington, DC.
- U.S. EPA. 1982. Fate of priority pollutants in publicly owned treatment works. EPA/440/1-82/303. Washington, D.C.
- U.S.G.S. 1970. Mercury in the environment. Geological Survey Professional Paper 713. Washington, DC: U.S. Geological Survey.

## EPA Materials Available From:

Office of Water Resource Center (OWRC)  
U.S. EPA  
401 M Street SW (RC-4100)  
Washington, DC 20460  
Phone: (202) 260-7786

Center for Environmental Research Information (CERI)  
26 West Martin Luther King Drive  
Cincinnati, OH 45268  
Phone: (513) 569-7562  
Fax: (513) 569-7585

National Technical Information Service (NTIS)  
U.S. Department of Commerce  
5285 Port Royal Road  
Springfield, VA 22161  
Phone: (800) 553-6847  
(703) 487-4650  
Fax: (703) 321-8547

Education Resource Information Center (ERIC)  
c/o West Virginia University  
P.O. Box 6064  
Morgantown, WV 26506-6064  
Phone: (614) 292-6717  
Fax: (614) 292-0263

## Specialists To Contact for More Information

### About Risk Assessment

Dr. Jim Ryan  
EPA Office of Research & Development  
(513) 569-7653

Dr. John Walker  
EPA Office of Wastewater Management  
(202) 260-7283

### About Risk Assessment and Derivation of the Rule

Mr. Robert Southworth  
EPA Office of Science and Technology  
(202) 260-7157

